

## From the Director



**Professor  
Milton Hearn**

Over the past months, staff of the Centre have been particularly active leading up to the review of the Centre by the Australian Research Council in mid October. The outcome of this collective effort is anticipated to result in continuation of our funding as a Special Research Centre through to the end of 2008. In addition, the Centre has continued to vigorously engage with

industry and external funding partners, resulting in the recruitment of a number of significant grants, including Linkage and CRC grants which will expand our funding base through to the end of 2008. In addition, I am also delighted to announce that the internationally esteemed electrochemist, Professor Alan Bond, has been awarded an ARC Federation Fellowship and will join the Centre from the beginning of 2006 as Deputy Director.



**Prof Alan Bond**

The Centre is currently hosting Dr Ram Mohan from Illinois Wesleyan University for 6 months sabbatical leave. The Centre has also welcomed Mr Katsuya Konno from Chiba, Japan who will be studying in the Centre for 6 months. The Centre has also welcomed several delegations from Thailand and Taiwan on study visits, whilst site visits from visitors from the UK, Saudi Arabia and Israel also occurred. During the past months the following PhD students, Ann Almesaker and Fera Luciwati and Honours student Jie Lian Beh, commenced their research studies within the Centre. We wish them great success in their research.



Students of Sustainability

The Centre was a co-sponsor of the very successful Students of Sustainability Conference, which was held in July at Monash University.

In October the Centre hosted Dr David Alker, Discovery Group Manager, Pfizer Global Research and Development, UK. As part of his visit, Dr Alker gave a well-attended seminar on "CCR5 antagonists for HIV Therapy". Dr Reinhard Boysen and I attended and presented invited lectures at the highly successful ISPPP Conference in Florida in early November.

**Milton Hearn**

## Director's Awards for Research Excellence 2005



Professor Milton Hearn congratulates the award recipients, Dr Jamil Chowdhury, Mr Anthony Rosamilia and Mr Yuanzhong Yang.

## 2nd International Conference on Green and Sustainable Chemistry and the 9th Annual Green Chemistry and Engineering Conference

From June 20-24, 2005 the joint meeting of the 2nd International Conference on Green and Sustainable Chemistry and the 9th Annual Green Chemistry and Engineering Conference was held in Washington D.C. USA.

The focus of the conference was 'Taking Measures of Green Process: Opportunity to Meet Global Challenges'. The Centre for Green Chemistry was a major sponsor of this prestigious and internationally renowned meeting. The Centre was broadly represented by both staff members and students in all disciplines of Green Chemistry. Our background and expertise led to a range of green chemistry topics being covered by the Centre staff in the form of 8 lectures and 1 poster. Our work was extremely well received, generating much discussion and interest not only during the specific lecture sessions, but afterwards in the breaks and social gatherings. The net results of such discussions are new research ideas and potential collaborations with green chemistry experts around the world.

The following papers were presented by our members:

**Dr Antonio Patti**

"Exposing green chemistry to non-chemistry majors" and "Nexus between green synthetic transformation and soil chemistry".

**Dr Brett Roberts**

"Green chemistry tools in developing synthetic methodologies"

**Dr Christopher Strauss**

"Enhanced applicability of green reaction media through alterations in chemical properties by physical influences"

**Dr Janet Scott**

"From solvent-free reactions and 'distillable' ionic liquids to novel multi-component reactions. Green chemistry tools for cleaner synthesis"

**Mr Luke Higham**

"Green synthesis of novel macrocycles and their supramolecular properties"

**Mr Anthony Rosamilia**

"Discovery of a new multi-component reaction through the use of an alternative reaction medium"

**Mr Philip Wallis**

"Oxidative coupling revisited: Solvent free / heterogeneous / in H<sub>2</sub>O"

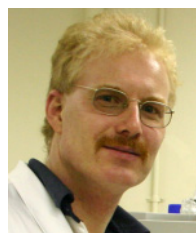
**Mrs Michelle Yin**

"Convergence for miniaturized, high throughput chromatographic technologies required for the analysis and isolation of new bio-molecular targets of green chemistry".

In addition to these presentations, Professor Milton Hearn, who is a member of the International Advisory Board had the honour to present a speaker's gift on behalf on the conference to the Nobel Laureate, Professor Noyori, further enhancing the Centre's profile at the international level.

The high quality of the papers arising from the Centre's Research program and the large presence of staff and students at this important international meeting demonstrated to the broad scientific community that the Centre for Green Chemistry is a world leader when it comes to green chemistry research and development. Furthermore the excellent presentations given by our students, demonstrates the bright future and fresh approach we have adopted to green chemistry initiatives as well as our ability to grow and remain leaders in this field.

## Staff Profile - Dr Reinhard Boysen



Dr. Reinhard Boysen is a research fellow at the Centre and holds the degree of a Doctor of Natural Sciences (Dr. rer. nat.) from the Faculty of Chemistry at the Free University of Berlin, Germany. Based on his work at the Institute for Applied Chromatography in Berlin he specialized in analytical biochemistry. His doctorate

research encompassed the application of computer simulation of the liquid chromatographic separations of proteins from thermophilic bacteria. He recognized Milton Hearn as one of the world's leading separation scientists and joined his group in 1995 to work in the area of the

thermodynamics of protein-ligand and drug-ligand interactions studied by novel procedures. Reinhard's current research provides the nexus between Green Chemistry, capillary based separation technologies and mass spectrometry. This research directly advances integrated pressure and electrically driven separations for fast, sensitive and robust analysis of low and high molecular weight organic compounds, macromolecules and applications in proteomics and metabolomics. Reinhard enjoys the interaction as associate supervisor of PhD students working within the Centre and aims at creating a multi-skilled team environment involving experimentation and method development related to several key platform technologies in Green Chemistry. He also is involved in research related to solid phase synthesis technologies encompassing ligand design, selection, and their application to purification technologies. Reinhard's strong background in mass spectrometry (MALDI ToF MS and ESI-MS) has led to collaboration with various researchers elsewhere within Monash University, enabling him to make contributions to biomedical diagnostics which have resulted in two patent applications.

## Student Profile - Anthony Rosamilia



Anthony attended high school at Salesian College, Chadstone. It was here that he developed his passion for Science, amongst other interests such as volleyball and chess. He later obtained his Bachelor of Science Degree with First Class Honours in Chemistry at Monash University under the supervision of Professor W Roy

Jackson. His honours project involved the synthesis and testing of specific peripherally (nervous system)-acting Nefopam analogues. Anthony was then attracted to Green Chemistry and commenced his PhD studies in the Centre for Green Chemistry under the supervision of Drs Janet Scott and Chris Strauss. He is now in the final year of his PhD studies. His research has involved the chemo-selective cross mono aldol-condensation reaction between aromatic aldehydes and ketones using DIMCARB, a distillable ionic liquid. During the course of this work, Anthony discovered a new multicomponent reaction for synthesising aniline derivatives. This method is direct, atom-efficient and generally high-yielding and the products of potential interest as ligands and agrochemicals. With a patent application (PCT) and a couple of papers under his belt, Anthony has presented his work at international conferences, including the IUPAC 15th International Conference on Organic Chemistry meeting in Nagoya, Japan, 2004 and the joint meeting of the 2nd International Conference on Green and Sustainable Chemistry and the 9th Annual Green Chemistry and Engineering Conference in Washington DC, in 2005. Anthony also presented a lecture at the 12th Royal Australian Chemical Institute (RACI) Convention in Sydney, 2005. Anthony intends to seek a post-doctoral position overseas and use the experience gained from the Centre for Green Chemistry to pursue a career in chemical research.

phone: +61 3 9905 4547 fax: +61 3 9905 8501  
email: green.chemistry@sci.monash.edu.au  
website: www.chem.monash.edu.au/greenchem